

Incidence Rate Trends

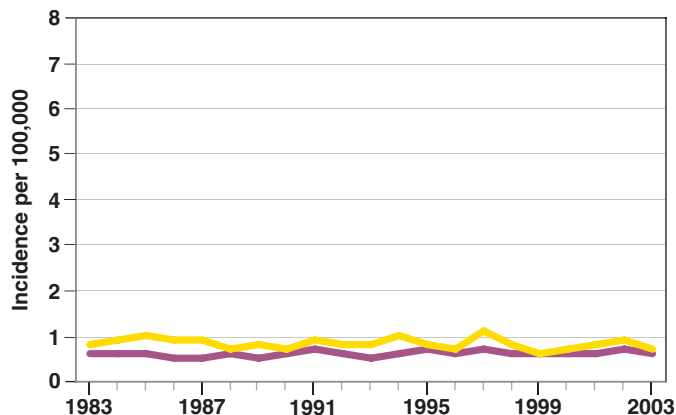
Sarcomas are a diverse group of malignant tumors that develop from fat, muscles, nerves, joints, blood vessels, bones, and deep skin tissues. They comprise about 1 percent of adult and 15 percent of pediatric malignancies. Sarcomas are difficult to differentiate from other malignancies when they are found within organs; thus, they are frequently misdiagnosed and highly underreported. As a result, although the incidence estimates presented here include the best available data, they are probably low. Because sarcomas often afflict people in the prime of life, the number of years of life lost is substantial despite the relatively low incidence. It is estimated that approximately 12,290 Americans will be diagnosed with sarcoma and 4,760 will die from the disease in 2006.

Soft tissue sarcoma¹ and osteosarcoma (bone sarcoma) incidence rates have remained relatively constant over the past 30 years; however, soft tissue sarcoma is more deadly due to the lack of detectable symptoms at early disease stages. Soft tissue sarcoma occurs three times more frequently in adults than in children. Multiple subtypes of osteosarcoma and soft tissue sarcoma exist; the exact number of Americans with each sarcoma subtype is unknown.

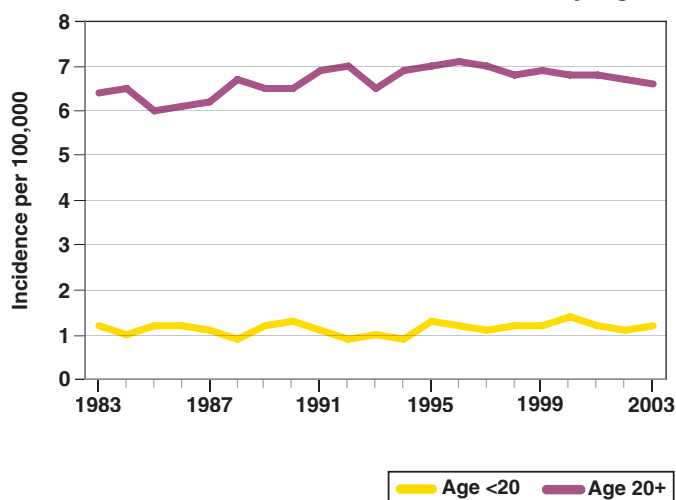
Source for incidence data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at <http://seer.cancer.gov/>.

¹Does not include Kaposi's sarcoma, which is addressed in a separate Snapshot.

U.S. Bone Sarcoma Incidence by Age



U.S. Soft Tissue Sarcoma Incidence by Age



Trends in NCI Funding for Sarcoma Research

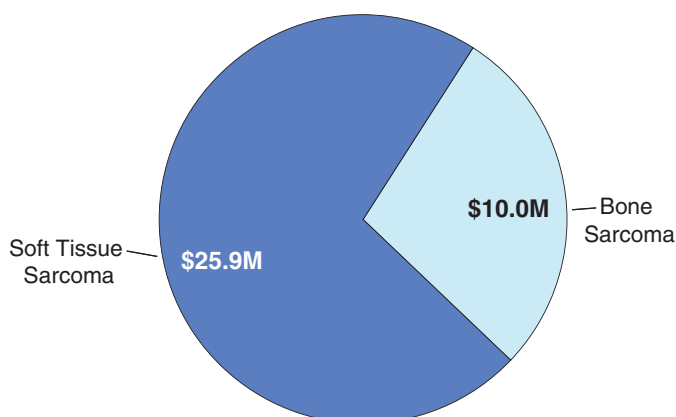
Funding data for sarcoma has only been collected since 2005. In 2005, the National Cancer Institute's (NCI's) investment² in sarcoma research was \$35.9 million,³ which included \$25.9 million for soft tissue sarcoma and \$10.0 million for bone sarcoma research.

Source: NCI Financial Management Branch
<http://fmb.cancer.gov>.

²The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research priorities and funding, see <http://www.nih.gov/about/researchpriorities.htm#overview>.

³Does not include Kaposi's sarcoma, which is addressed in a separate Snapshot.

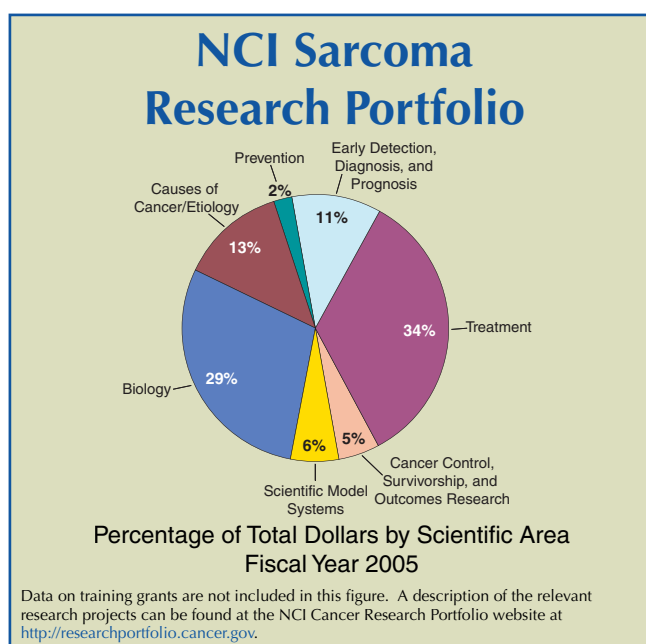
2005 Sarcoma Research Funding*



*The total NCI budget was \$4.8B in fiscal year 2005.

Examples of NCI Research Initiatives Relevant to Sarcoma

- The **Community Clinical Oncology Program (CCOP)** and the **Minority-Based Community Clinical Oncology Program (MB-CCOP)** are comprehensive clinical trial mechanisms that disseminate the latest cancer prevention and treatment research findings to the community. Twenty-four of the NCI-funded CCOP and MB-CCOP groups currently participate in sarcoma clinical trials. <http://www.cancer.gov/prevention/ccop/about.html>
- The **Sarcoma Progress Review Group (PRG)** and the **Adolescent and Young Adult Oncology (AYAO) PRG**, two panels of prominent scientists and patient advocates, assessed the state of the science and identified future research priorities for sarcoma and other understudied cancers in adolescents and young adults. <http://planning.cancer.gov/pdfprgreports/2004sarcoma.pdf> and http://planning.cancer.gov/disease/AYAO_PRG_Report_2006_FINAL.pdf
- NCI's **Drug Development Group (DDG)** supports the oversight and preclinical/clinical development of therapeutics, including potential agents for the treatment of sarcoma. <http://dtp.nci.nih.gov/docs/ddg/ddg%5Fcurrent.html>
- **Clinical trials** are actively recruiting patients with sarcoma to test new treatments and treatment combinations. For example, NCI's Pediatric Oncology Branch is conducting immunotherapy trials to test tumor vaccines and stem cell transplantation for pediatric sarcomas. <http://www.cancer.gov/search/clinicaltrials>
- **caMOD: NCI's Cancer Models Database** allows researchers to submit and retrieve animal models of cancer, including several bone and soft tissue sarcoma models. <https://cancermodels.nci.nih.gov/camod/login.do>



- The **Mammalian Gene Collection** provides full-length open reading frame (FL-ORF) clones for many human genes, including those implicated in the development of sarcoma. <http://mgc.nci.nih.gov>
- The **Director's Challenge: Toward a Molecular Classification of Tumors** includes two projects focused on defining the molecular classification of sarcomas based on their genetic and molecular profiles. <http://dc.nci.nih.gov/organization/principalInvestigators/DCabstracts>
- The **Soft Tissue Sarcoma Home Page**, the **Bone Cancer Home Page**, the **Uterine Sarcoma Home Page**, and the **Ewing's Family of Tumors Home Page** provide up-to-date information on treatment, prevention, genetics, screening, and testing for various types of sarcoma. <http://www.cancer.gov/cancerinfo/types/soft-tissue-sarcoma/> and <http://www.cancer.gov/cancerinfo/types/bone/> and <http://www.cancer.gov/cancerinfo/types/uterinesarcoma/> and <http://www.cancer.gov/cancerinfo/types/ewings/>

Selected Opportunities for Advancement of Sarcoma Research

- Improve basic biologic research and understanding of host/patient biology in adolescent and young adult non-Kaposi's sarcomas.
- Develop comprehensive molecular approaches to sarcoma detection and treatment.
- Develop new sarcoma-specific animal models, including models of metastatic disease.
- Continue to identify and understand the molecules that contribute to sarcoma metastasis (such as the gene ezrin).